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PATENT ABSTRACTS OF JAPAN(21) Application number: **63299843**(51) Intl. Cl.: **H01M 10/40 H01M 10/04**(22) Application date: **28.11.88**

(30) Priority:

(43) Date of application
publication: **07.06.90**(84) Designated contracting
states:(71) Applicant: **MATSUSHITA ELECTRIC IND CO
LTD**(72) Inventor: **NISHIKAWA YUKIO
MORITA TERUYOSHI
ITO ZENICHIRO
YAMAURA JUNICHI**

(74) Representative:

**(54) NONAQUEOUS
ELECTROLYTE STORAGE
BATTERY**

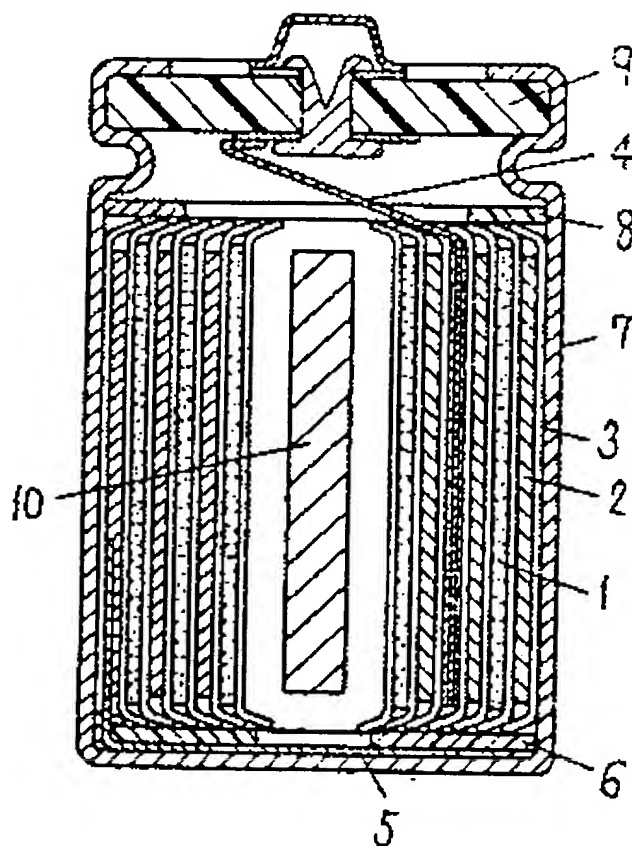
(57) Abstract:

PURPOSE: To suppress fusion and a calorific effect of metallic lithium by providing an electrode for which a separator that is wider than both plates is put between them, and by inserting a solid paraffine of melting point not less than 90°C and not more than 170°C into a core of the electrode.

CONSTITUTION: A separator 3 that is wider than positive and negative plates 1, 2 is provided between them, and the whole body wound in vortex, an electrode is formed. A lower insulating plate 6 is installed in the electrode, which is inserted in a case 7, and after an upper insulating ring 8 is installed therein, an electrolyte is poured. A solid paraffine 10 is inserted into a core of the electrode so as to build up a battery with a sealing plate 9 installed and sealed. When the melting point for paraffine and a resin is lower than 90°C, after charge and

discharge by 50 cycle and being retained at 60°C, internal impedance is drastically increased. When the melting point is greater than 170°C, as the internal temperature exceeds the melting point of lithium, the number of ignition is increased after charge and discharge by 50 cycle under the same condition as mentioned above. The solid paraffine of melting point not less than 90°C and not more than 170°C is thus to be inserted.

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Title: **JP2148577A2: NONAQUEOUS ELECTROLYTE STORAGE BATTERY**
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Country: **JP** Japan
 Kind: **A**

Inventor(s): **NISHIKAWA YUKIO
 MORITA TERUYOSHI
 ITO ZENICHIRO
 YAMAURA JUNICHI**

Applicant/Assignee: **MATSUSHITA ELECTRIC IND CO LTD**
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Issued/Filed Dates: **June 7, 1990 / Nov. 28, 1988**

Application Number: **JP1988000299843**

IPC Class: **H01M 10/40; H01M 10/04;**

Priority Number(s): **Nov. 28, 1988 JP1988000299843**

Abstract:

Purpose: To suppress fusion and a calorific effect of metallic lithium by providing an electrode for which a separator that is wider than both plates is put between them, and by inserting a solid paraffine of melting point not less than 90°C and not more than 170°C into a core of the electrode.

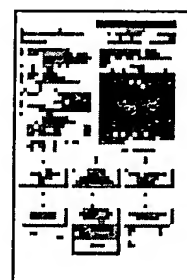
Constitution: A separator 3 that is wider than positive and negative plates 1, 2 is provided between them, and the whole body wound in vortex, an electrode is formed. A lower insulating plate 6 is installed in the electrode, which is inserted in a case 7, and after an upper insulating ring 8 is installed therein, an electrolyte is poured. A solid paraffine 10 is inserted into a core of the electrode so as to build up a battery with a sealing plate 9 installed and sealed. When the melting point for paraffine and a resin is lower than 90°C, after charge and discharge by 50 cycle and being retained at 60°C, internal impedance is drastically increased. When the melting point is greater than 170°C, as the internal temperature exceeds the melting point of lithium, the number of ignition is increased after charge and discharge by 50 cycle under the same condition as mentioned above. The solid paraffine of melting point not less than 90°C and not more than 170°C is thus to be inserted.

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